

Amendments to the Claims:

Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

- 5 1. (original) A method for video decoding in a video decoding/de-interlacing display apparatus, utilizing a storage device having four frame buffers, the method comprising:
 - (a) decoding interlaced video data of a next picture;
 - (b) if the decoded next picture is a B picture, buffering the decoded interlaced
10 video data of the next picture into a frame buffer of the storage device not stored with a reference picture nor a present display picture nor a previous display picture; and
 - (c) if step (b) is not applicable, buffering the decoded interlaced video data of the
15 next picture into a frame buffer of the storage device stored with the previous display picture.
2. (original) The method of claim 1 further comprising:
 - (d) if the decoded next picture is a reference picture, buffering the decoded
20 interlaced video data of the next picture into a frame buffer of the storage device not stored with the last decoded reference picture nor the present display picture nor the previous display picture.
3. (original) The method of claim 2 wherein the reference picture is an I picture.
- 25 4. (original) The method of claim 2 wherein the reference picture is a P picture.
5. (currently amended) A method for video decoding in a video decoding/de-interlacing

display apparatus, utilizing a storage device having four frame buffers, the method comprising:

- (a) decoding interlaced video data of a next picture; and
- (b) if the decoded next picture is a reference picture, buffering the decoded
5 interlaced video data of the next picture into a frame buffer of the storage device not stored with the last decoded reference picture nor a present display picture nor a previous display picture.

10 6. (original) The method of claim 5 wherein the reference picture is an I picture.

7. (original) The method of claim 5 wherein the reference picture is a P picture.

8. (original) The method of claim 5 further comprising:

- (c) if the decoded next picture is a B picture, buffering the decoded interlaced
15 video data of the next picture into a frame buffer of the storage device not stored with a reference picture nor the present display picture nor the previous display picture.

9. (original) The method of claim 8 further comprising:

- (d) if step (c) is not applicable, buffering the decoded interlaced video data of the
20 next picture into a frame buffer of the storage device stored with the previous display picture.

25 10. (currently amended) An apparatus for video decoding and de-interlacing, comprising:

a video decoder for decoding video data to generate decoded interlaced video data of a next picture;
a storage device coupled to the video decoder, the storage device having four frame

5 buffers for buffering the decoded interlaced video data of the next picture into one of the four frame buffers according to data stored in the frame buffers;
a an interlace/progressive converter coupled to the storage device, for de-interlacing data stored in the frame buffers to generate corresponding progressive video data according to a previous display picture and a present display picture; and
a controller coupled to the video decoder and the interlace/progressive converter, for controlling data access of the video decoder and the interlace/progressive converter to the frame buffers of the storage device.

10 11. (currently amended) The apparatus of claim 10 wherein the controller controls the data access of the video decoder according to following principles:

- 15 (a) if the decoded next picture is a B picture, buffering the decoded interlaced video data of the next picture into a frame buffer of the storage device not stored with a reference picture nor a the present display picture nor a the previous display picture; and
(b) if step (a) is not applicable, buffering the decoded interlaced video data of the next picture into a frame buffer of the storage device stored with the previous display picture.

20 12. (currently amended) The apparatus of claim 10 wherein the controller controls the data access of the video decoder according to following principles:

- if the decoded next picture is a reference picture, buffering the decoded interlaced video data of the next picture into a frame buffer of the storage device not stored with the last decoded reference picture nor a the present display picture
25 nor a the previous display picture.

13. (original) The apparatus of claim 10 wherein the interlace/progressive converter is capable of performing motion adaptive de-interlacing operations.

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14. (original) The apparatus of claim 13 wherein the interlace/progressive converter performs the motion adaptive de-interlacing operations incorporating video data of 3-8 fields stored in the frame buffers of the storage device.

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15. (original) The apparatus of claim 10 being capable of performing recovery operations to video data from a telecine source.